

# **RANCANG BANGUN SISTEM PENCATATAN PANEN SAWIT BERBASIS WEB DENGAN FITUR KEAMANAN OTP DAN SSO**

Nama : Jefry Subastian  
NIM : 6404221115  
Dosen Pembimbing : Mansur, M.Kom

## **ABSTRAK**

Proses pencatatan panen kelapa sawit pada banyak kelompok tani masih dilakukan secara manual sehingga berpotensi menimbulkan kesalahan pencatatan, keterlambatan pelaporan, serta kesulitan dalam verifikasi data panen. Penelitian ini bertujuan merancang dan membangun sistem informasi pencatatan panen kelapa sawit berbasis web yang mendukung pencatatan oleh petani, validasi pemesanan penjemputan oleh agen, pemantauan penjemputan oleh supir, serta penyajian informasi melalui dashboard bagi admin. Sistem menerapkan mekanisme keamanan autentikasi menggunakan One-Time Password (OTP) dan Single Sign-On (SSO) sebagai autentikasi berlapis untuk meningkatkan keamanan dan kemudahan akses pengguna. Metode pengembangan yang digunakan adalah model Waterfall yang meliputi analisis kebutuhan, perancangan, implementasi, pengujian, dan pemeliharaan. Hasil implementasi menunjukkan bahwa seluruh fitur utama sistem berjalan sesuai proses bisnis yang dirancang, serta sistem dapat digunakan untuk mendukung pencatatan, validasi pemesanan, dan pemantauan penjemputan secara terintegrasi. Dengan demikian, sistem mampu meningkatkan efisiensi, akurasi, transparansi, serta keamanan pencatatan panen kelapa sawit dan berpotensi diterapkan pada kelompok tani atau unit usaha sejenis.

**Kata kunci:** One-Time Password, Panen Kelapa Sawit, Single Sign-On, Sistem Informasi, Waterfall

# DESIGN AND DEVELOPMENT OF A WEB-BASED PALM OIL HARVEST RECORDING SYSTEM WITH OTP AND SSO SECURITY FEATURES

Nama : Jefry Subastian  
NIM : 6404221115  
Dosen Pembimbing : Mansur, M.Kom

## ABSTRACT

*The recording of oil palm harvests in many farmer groups is still carried out manually, which can lead to recording errors, reporting delays, and difficulties in verifying harvest data. This study aims to design and develop a web-based oil palm harvest recording information system that supports data entry by farmers, validation of pickup requests by agents, pickup monitoring by drivers, and information presentation through an admin dashboard. The system applies layered authentication using One-Time Password (OTP) and Single Sign-On (SSO) to improve security and ease of user access. The development method used is the Waterfall model, which includes requirements analysis, design, implementation, testing, and maintenance. The implementation results show that all main system features operate according to the designed business processes, and the system can be used to support integrated recording, request validation, and pickup monitoring. Therefore, the system is expected to improve efficiency, accuracy, transparency, and security of oil palm harvest records and can potentially be implemented in farmer groups or similar business units.*

**Kata kunci:** *One-Time Password, Oil Palm Harvest, Single Sign-On, Information System, Waterfall*